Enhancing Growth Through Structural Reform

A Study of the Dutch Economy from 1960 to 1994

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Abstract

In this paper we analyse how structural factors concerning the labour, capital and product market affected the economic growth of the Netherlands over the past three and a half decades. We concentrate in particular on the recent acceleration in GDP and per capita income since 1987 and aim to establish the relation with structural reforms which have taken place since the early 1980s. In section 2 we discuss changes in the structure of the economy in a comparative perspective, which includes a detailed assessment of the productivity performance of the Dutch economy and its relation to labour supply, investment in human and physical capital and the role of changes in average firm size. In section 3 we discuss how structural imbalances in particular on the product and capital market have undergone major reform since the mid 1980s. We conclude that much has already been achieved in terms of structural reform, but that more may be necessary because of the expected continuation of a rise in labour supply. We also conclude that the recent acceleration in growth has gone together with a strong deceleration in productivity growth, which among other things is related to the rapid rise in labour supply since the mid 1980s. In order to prevent productivity from setting onto a path of further slowdown, which may affect per capita income growth in the long run, a further acceleration of GDP growth and a more effective use of human and physical capital inputs is therefore required. To achieve these main objectives, the emphasis of structural policies needs to stay with:

- keeping labour cost down to moderate levels, in particular by further reducing the wedge between gross and net payments.
- stimulating the effective use of inputs, by fostering investment in human and physical capital.

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- removing remaining structural rigidities on the product, labour and capital markets.

1. Introduction

Even though the Dutch economy has exhibited a marked improvement in terms of growth of GDP and per capita income since the late 1980s, there has been an ongoing concern about various structural characteristics and their impact on potential growth. Despite the substantial increase in the number of jobs and the total number of hours worked which has been realised since 1987, the Dutch economy needs to accommodate for an even greater labour supply in the years to come. The need for accelerated growth requires a continuation of structural reforms of the Dutch economy.

The overall improvement of the growth performance of the Dutch economy can be seen when comparing the growth of GDP and per capita income since 1987 and before 1987 (Table 1). Between 1973 and 1987 growth of GDP and per capita income in the Netherlands slowed down compared to the average of the OECD as well the European Union (EU). Also in comparison to a smaller sample of twelve Northwest European countries, which show most resemblance to the Netherlands in terms of structural characteristics, growth slowed down considerably during that period. The slowdown was reflected in a narrowing of the difference between the higher level of per capita income in the Netherlands and that of the OECD and the EU (Table 2). Labour productivity increased more rapidly than in the reference groups during the period 1973 to 1987, but even that growth advantage for the Netherlands declined compared to the period 1960 to 1973.

Since the late 1980s Dutch economic performance has improved both in comparison with the recent past and relative to that of the reference groups. Growth of per capita income has accelerated and the per capita income gap between the Netherlands and the average for Northwest Europe declined to four percentage points in 1994. Growth of real GDP has also been fast both relative to the period 1973-87 and in comparison with the averages for Northwest Europe, the EU and the OECD. However, in contrast to the earlier period, labour productivity growth has slowed down. Even though the level of GDP per hour worked in 1994 was still 12 percentage points above the level of NW Europe and 18-19 percentage points above that of the

OECD and the EU, this productivity advantage for the Netherlands has clearly eroded.

To prevent productivity from setting onto a path of further slowdown, which may affect per capita income growth in the long run, a further acceleration of GDP growth and a more effective use of human and physical capital inputs is required. To achieve these main objectives, the emphasis of structural policies needs to stay with:

- keeping labour cost down to moderate levels, in particular by further reducing the wedge between gross and net payments. Measures in this field will lead to strengthening of competitiveness on the world market, a further increase in the number of jobs and a decline in expenditure on social security.
- stimulating the effective use of inputs, by fostering investment in human and physical capital. Despite the acceleration in GDP, the rapid increase of inward foreign direct investment and an improvement in the rate of return on capital investment-output ratios need to increase. To match an increase in physical investment and accommodate for the high skill intensity of the Dutch economy, measures to improve skills of the labour force also require attention.
- removing remaining structural rigidities on the product, labour and capital markets. Even though policies towards each of these markets cannot be seen in isolation, flexibilisation of the labour market, strengthening of product market competition and further liberalisation of the financial sector are crucial ingredients of a encompassing policy to strengthen the structure of the Dutch economy.

This paper focuses primarily on the product and financial market, since the labour market is dealt with elsewhere in more detail (for example, Arnold, de Jong and de Haan, 1996). In the next section, the structure of the Dutch economy and its change over the past three and half decades are analysed in a comparative perspective. The productivity performance of the Dutch economy is decomposed into the role of output and factor inputs; into the contribution of individual sectors of the economy and into the effects of changes in average firm size. This is followed by a more detailed assessment of the individual contribution to growth of investment in physical capital by the private and public sector, and investment in human capital, which includes education and technology. The following section provides a discussion of structural imbalances on the labour, capital and goods markets. The paper concludes with a note on the need for further structural reform.

2. Structural Change in the Netherlands from 1960 to 1994

Accounting for Structural Change

Despite the acceleration of GDP and per capita income growth since 1987, there have been voices stressing the underperformance of the Dutch economy in terms of structural characteristics. For example, a recent study based on an estimated growth equation for the period 1960 to 1985 suggested that the predicted growth rates for the Dutch economy were above the actual growth rates and that this difference was biggest of all OECD countries. However, growth equations are very sensitive to the structural variables included and their specification. For example, when the investment-output ratio is introduced as the key structural variable, the Dutch scor appears not to be the worst of all OECD countries even though the predicted growth still exceeds actual growth.[1]

Other signs of concern came from a recent government study on the competitiveness of the Dutch economy.[2] The study benchmarked Dutch performance with regard to a range of structural variables on the average experience of three major trading partners (Belgium, Denmark and Germany) and two leading countries which have very different institutional characteristics (Japan and the United States). The study identified weak, average and strong points for the Netherlands with regard to the functioning of the goods market, the labour market and the capital market, the investment in physical infrastructure, education and technology, monetary and budgettary stability and an effective fiscal infrastructure. The impact of these variables on the competitiveness of the Dutch economy was determined through their effect on costs (of labour, capital, energy, etc.), on the supply side structure (the availabily and quality of labour, physical infrastructure) and on the capability of markets to adjust and innovate. In general the study concludes that the Dutch economy has been underutilizing its potential. In the remainder of this section on the relative importance of various of these factors for growth in the recent past and potential future growth is considered.

The slowdown in the growth rate output per hour worked may also be of concern. The difference between growth rates of GDP per capita (Y/P) and labour productivity

(GDP per hour: Y/H) can be decomposed into the change in the number of hours per worker (H/L) and the change in the labour force participation (L/P) (Table 3). Between 1960 and 1987, the larger fall in working hours and more rapid decline in labour force participation in the Netherlands (in particular before 1973) accounted for the relatively slow growth of per capita income. However, during the period 1987-1994 an important transformation occurred compared to earlier subperiods. The decline in working hours became more moderate (although it still declined more rapidly than in the reference groups) whereas labour force participation increased significantly. These labour market trends are directly related to the rapid increase in part-time employment, the incidence of worktime sharing schemes and the introduction of a shorter average working week of 38 hours, in some cases even going down to 36 hours. However, it should be emphasised that despite the relatively poor productivity growth performance of the Netherlands since the late 1980s, labour productivity levels are still considerably above the average of the reference group (Table 2).

Whereas labour productivity growth in the Netherlands was higher as in the reference groups during the period 1973-1987, the fall in the total number of hour worked was bigger than elsewhere (Diagram 1b). Since 1987 the situation has changed dramatically. Even though many of the newly created jobs in the Netherlands were part-time jobs, it still led to a rise in total working hours of more than 1 per cent a year on average (Diagram 1c). By contrast the whole of Northwest Europe and the EU experienced a further decline in total hours worked, whereas the OECD as whole experienced a more modest increase[4]. However, the rise in total working hours was associated with a slowdown in the productivity growth in the Netherlands, which suggests that the marginal productivity of newly created jobs has been relatively low.

The labour productivity concept does not take account of changes in capital intensity. Between 1987 and 1994 average growth rate of the non-residential capital stock in the Netherlands was 2.7 per cent, which was slightly below growth rate of the period before (Table 4)[5]. Given the average rise in total working hours, this implies a modest increase in capital intensity of only 1.6 per cent per year, compared to 3.6 per cent per year for the period 1973-1987. The capital-output ratio only increased at 0.2 per cent on average since 1987. Growth of GDP can also be decomposed in the contribution of factor inputs (labour, schooling and physical

capital) and total factor productivity. As in most OECD countries, total factor productivity (TFP) growth in the Netherlands has slowed down substantially since 1973. Despite the acceleration of GDP growth since 1987, TFP growth did not reduce further since 1987 to one-third to one-half of the TFP growth rate during the period 1973-1987 (Table 4).

An international comparison of growth accounts between the Netherlands and other advanced countries (including France, Germany and the UK) suggests that TFP growth in the Netherlands during the period 1973-1992 was faster than in France and the UK but slower than in Germany. The data confirm the view that the Dutch economy performed much better than the other three countries on the creation of jobs although this effect was more than offset by the decline in working hours per person employed. The Dutch economy performed also better than Germany and the UK on human capital, but growth of the non-residential capital stock was somewhat slower than in the other countries. However, the effect on growth from foreign trade was of much less importance for the Netherlands during this period compared to the period from 1950 to 1973.

Industry Structure and Firm Size

Having observed the major changes in output and productivity performance of the Dutch economy over the past years, one should look for typical structural factors which may explain the rapid productivity growth and subsequent slowdown. These include the change in output and employment shares by sector, the comparative productivity performance of those industries, and the contribution of firms of different sizes. Since 1960 the industry structure of the Netherlands exhibited some specific features in comparison to the average for six Northwest European countries (Denmark, France, Germany, the Netherlands, Sweden and the UK), which may be summarised as follows (Diagram 2):

- The agricultural sector in the Netherlands has been relatively small in terms of employment shares, although the average share for the six Northwest European countries has now declined to virtually the same level. The relative productivity level has been high compared to the productivity level for the economy as a whole, although again the difference with the other countries declined.
- The industrial sector, particularly the manufacturing sector, has been somewhat smaller both in terms of output and employment shares compared to the other countries. The relative productivity level in manufacturing compared to the total economy has also been lower than the average for Northwest Europe. In contrast, the relative productivity level for the broader industrial sector has been relatively high, which is mainly due to the effect of the mining sector in the Netherlands which is dominated by the exploitation of natural gas.
- The employment share of the services sector in the Dutch economy has become relatively high in particular in trade and financial services. As the level of output per person employed compared to that of the economy as a whole is generally relatively high in financial services a large employment share in this sector (and to a lesser extent in transport and communication) has a positive impact on the overall productivity level of the economy. However, in the case of the Netherlands the productivity level of the financial services is not so high compared to the average for Northwest Europe[7]. In contrast, the productivity performance of the transport and communication sector in the Netherlands is relatively good.

Productivity growth can originate from an increase in output per unit of input within the sectors or from shifts of employment from low- to high productivity

sectors. In the case of the Netherlands the latter effect has been relatively unimportant. For example, on the basis of the counterfactual assumption of constant employment shares between 1973 and 1992, the average annual growth rate of GDP per person employed would have been 0.99 instead of 0.97 per cent per year. Most of the productivity growth in the Netherlands therefore appears to have come from within the sectors[8].

Manufacturing sector performance

Although the importance of the manufacturing sector in terms of its share in output and employment in the Netherlands has declined (like in other advanced countries), the significance of this sector for the overall performance of the economy should not be underestimated. Firstly, the number of employees which are associated with the production of the final output in manufacturing is much larger than the number of people actually working in manufacturing. In 1990, 800 thousand of the 962 thousand persons employed in Dutch manufacturing were involved in production for final output. In addition another 713 thousand workers were involved in producing intermediate inputs which were used in the manufacturing production process[9]. As a result not 18, but 29 per cent of employment in the Netherlands is actively contributing to the creation of final output in manufacturing.

Secondly, even though manufacturing is often seen as the major sector where jobs are lost because of continuous efficiency operations, quite a number of new jobs have been created in this sector. Between 1979 and 1991 the manufacturing sector experienced a decline in employment of about 0.4 per cent per year on average. However, the average creation of new jobs in manufacturing was around 7.4 per cent per year whereas job destruction amounted to about 7.8 per cent a year on average[10]. Table 5 shows that 32 per cent of employment in manufacturing firms which existed in 1980 and still existed in 1991 concerned activities that experienced an increase in productivity and employment while for 47 per cent of employment productivity grew but employment declined. Firms in basic metals and in electrical machinery were overrepresented in the latter group, whereas the successful growers are in sectors like food, beverages and tobacco and in chemicals, rubber and plastic products.

A third reason for emphasising the importance of the manufacturing for the growth performance of the Dutch economy is its high level of output per hour worked and an

low level of unit labour costs. As the Netherlands is one of the countries with the lowest amount of annual working hours per person, the relative productivity performance shows up much better in terms of output per hour compared to output per person employed (Table 6). An important reason for this relatively high level of labour productivity is the strong concentration of Dutch industry in basic chemicals, which is characterised by a relatively high capital intensity. However, other sectors of Dutch manufacturing, such as textiles and some other light industries, also showed high productivity levels[11]. Dutch manufacturing also had a relatively good position in terms of unit labour costs, as the high productivity performance went together with a significant wage growth moderation during the second half of the 1980s. Despite the strong devaluation of the US dollar, the Netherlands was still slightly more competitive than the United States in 1994.

The strong presence of capital intensive industries in Dutch manufacturing has raised some concern about the potential for future growth compared to typical high-tech industries (such as electronics, pharmaceuticals, instruments, etc.) in which the Netherlands is underrepresented. The Dutch manufacturing sector is relatively overrepresented in low-tech industries, including the food processing industry, paper and printing and petroleum refining, even though in 1991 its share in high tech industries was not lower than the average for Northwest Europe (Table 7, panel A)[12]. However, the Dutch manufacturing sector appears to be relatively strongly represented in so-called skill intensive industries (Table 7, panel C). The latter segment includes typical process industries, including food processing and basic chemicals. In conclusion, the high productivity and skill intensity of Dutch industry, in combination with a relative healthy labour cost position may well have created strong comparative advantage for the Dutch economy supporting growth in the long term.

Exposed and sheltered sectors

Another way to look at the growth performance of the Dutch economy at sectoral level is to distinguish between an open (or exposed) sector and a domestic (or sheltered) sector. Whereas the exposed sector faces important foreign competitive pressures, the sheltered sector primarily produces for the domestic market, facing much less international competition.

In Table 8 the classification for the exposed and sheltered sector of the Dutch Central Planning Bureau is used[13]. The exposed sector mainly consists of manufacturing, agriculture and transport and communication, and the sheltered sector consists of trade, banking and insurances and other private services. The share of the sheltered sector in total output has increased during the 1980s to more than 2 percent. The exposed sector showed the opposite pattern: it declined from an average of 44 percent of GDP during the period 1960-73 to 33 percent during the period 1987-94. If the growth rate of value added of the sheltered sector would be considerably lower than in the exposed sector, this structural development would perhaps help explain a slowdown in real GDP growth. However, as follows from Table 8 the growth rate of the sheltered sector was generally higher than that of the exposed sector.

The capital-intensive nature of the exposed sector in combination with competitive pressure to reduce labour costs, released a large number of people to find employment in the sheltered sector. Table 8 shows that employment growth in the sheltered sector was, on average, higher than that of the exposed sector, but the growth rate of output per person employed was considerably lower. As a large number of newly created jobs in the services sector were parttime jobs, the productivity growth rate for the sheltered sector after an adjustment for average working hours would be about 0.5 percentage points higher compared to 0.2 percentage points for the exposed sector. The unit labour cost performance of the exposed sector has therefore been much better than in the sheltered sector, even though the sheltered sector has also shown a considerable decline in unit labour cost since 1987.

The Effects of Firm Size

As in other OECD countries the share of small and medium sized firms (SMEs) in the Netherlands has increased over the past decades, and as a result the average size of firms has declined. Nevertheless, the Dutch economy is primarily characterised by relatively large average firm size, that is 10 persons in the Netherlands compared to 6 persons on average for the European Union (Table 9).

The rise of small and medium sized firms has often been seen as important for the creation of new jobs in the economy. Clearly the shift of employment from

commodity sectors to services sectors, where small firms are relatively more important, has contributed to the increase of employment in small and medium sized firms. However, despite the relatively large overall employment share of the Netherlands in trade and financial services (compare Diagram 2), the share of these sectors in the employment of SMEs is not higher than for the European Union as whole. Even in a typical "small firm" sector like trade, Dutch firms have an average size of 7 persons compared to 4 persons for the European Union, and account for 38 per cent of all employment in firms up to 100 employees compared to an average of 41 per cent for the EU. This suggests that Dutch SMEs are less important as a engine of job creation than in other countries. On the other hand, the share of private community, social and personal services in SMEs appears in the Netherlands appears to be much bigger than elsewhere (Table 9).[14]

Apart from the creating employment, the dynamics of SMEs in the long run also depend on their relative productivity performance. Medium sized firms have been the most successful productivity performers in the Netherlands. Table 10 shows that the lower medium sized (10-99 employees) and upper medium sized (100-499 employees) firms had the highest productivity levels on the whole. In particular manufacturing and producer services firms (which included financial services) showed relatively high productivity in this sector, although the latter sector (together with transport and communication) did also relatively well in the large firm size (more than 500 employees). The relatively good performance of medium sized firms can also be derived from Table 11. Upper medium sized firms (100-499 employees) were most strongly overrepresented in the category of firms which have experienced an increase in productivity as well as employment, whereas small and lower medium sized firms (0-99 employees) are strongly overrepresented in the category which experienced an increase in employment without a rise in productivity. The largest firms were strongly overrepresented in the category of firms without employment growth. It should be emphasised, however, that the large firms accounted for 43 per cent to the overall productivity growth in manufacturing.[15]

The contribution of the smallest firms to employment creation is relatively modest. Many small starting firms disappear rapidly, in particular those which experienced no productivity growth. After an adjustment for exits, starting firms accounted for only 33 thousand of the 158 thousand newly created jobs in the Netherlands between 1990

and 1993. Most employment creation has come from already existing firms, in particular from fast growers. A panel-based study has shown that these firms, representing approximately 10 per cent of all firms in the panel, experienced a increase in employment of 8.4 per cent per year on average compared to 1.5 per cent for the economy as a whole between 1987 and 1992.[16]

Even though the growth rate of employment in SMEs (up to 500 employees) is estimated at 1.5 per cent per year on average over the period 1989-1995 compared to 0.25 per cent for the EU-12 as a whole, the productivity growth is only 1 per cent compared to 1.75 per cent for the EU-12. Small firms are part of the sheltered sector to a much larger extent than large firms. For example, in 1993 only 7 per cent of the small firms (0-9 employees) and about 30 per cent of lower medium firms (10-99 employees) in the Netherlands were exporting enterprises compared to 55 per cent of upper medium and large enterprises.[17] Small and lower medium sized firms are therefore most likely to suffer from structural rigidities such as regulatory and administrative burdens as far as these are more present in the sheltered than in the exposed sector of the economy.

The Role of Investment

Savings and Investment in Physical Capital

For a long time now the Netherlands has had a surplus on the current account, which may reflect a high level of savings and/or a low level of investment. Table 12 compares saving and investment levels in the Netherlands with European Union an OECD averages. It follows that the savings rate in the Netherlands has been relatively high, despite substantial government dissaving in the 1980s savings. This is due to a high level of household saving, which in turn is partly explained by the high level of contractual savings. Net household savings as a percentage of disposable income over the period 1960-1993 amounted to 13.8 per cent in the Netherlands, whereas the EU15 average was 12.0 per cent. Business savings were also quite high during the 1980s. It also follows from Table 12 that during the 1980s investment levels in the Netherlands were not out of line with those in the other

countries. Still, it is clear that investment was too low in view of the high growth rate of labour supply in the Netherlands.

Estimates of the rate of return on capital in the business sector show that profitability in the Netherlands exceeded the European average and the rate in Japan and the USA during the 1980s and 1990s (Table 13).

Diagram 4 shows that since the beginning of the 1970s the investment level of the Netherlands declined and remained at that lower level. Despite the recent economic recovery investment share of the business sector has not gone up. It also follows from Diagram 4 that the investment level in the exposed sector is substantially higher than in the sheltered sector. However, in recent years this gap has become smaller.

During the period 1987-1994 foreign direct investment in the Netherlands and Dutch investments abroad increased substantially, albeit Dutch investments abroad was almost twice as high as foreign investment in the Netherlands (Table 14). It also follows from the table that most investments come from, respectively go to countries of the European Union. Most foreign investments and investments abroad are in manufacturing.

Public Investment

During the 1980s many OECD countries have offset increases in debt interest payments and rising social security transfers by winding back public investment.[18] The decline of government investment spending in the Netherlands is not exceptional (Diagram 5). Public capital spending as a share of GDP declined or remained stable in almost all OECD countries between 1980 and 1992. Public investment in the Netherlands increased until 1968 and has declined since, which in part reflects the completion of the Delta Project. Nevertheless spending on ground, road and waterways is still by far the most important type of public investment amounting to about 1.5 percent of GDP. It has been argued that the decline of government capital formation in most OECD countries might play an important role in explaining the poor economic performance during the 1980s, but recently some studies have reached different conclusions.[19] It is therefore hard to reach definite conclusions with respect to the impact of government investment on the growth performance of the Netherlands.

Investment in Human Capital

Human capital intensity in the Netherlands, defined as the total investment in education, technology and other stock of knowledge as a percentage of GDP, has been relatively stable over the period 1975 to 1991 (Table 15). However, the share of technology and other knowledge indicators (including marketing, technical service and consultancy) has increased from 40 per cent of total human capital investment in 1975 to 57 per cent in 1991. The expenditure share on education has fallen everywhere except for investment in company training.[20] Government expenditure on education declined from about 22 per cent of the total budget in 1975 to about 16 per cent in 1991. Clearly the decline of expenditure on education is partly determined by demographic developments. However, Table 15 shows that after a correction for the decline in the share of 0-19 year olds in the population, the share of expenditure on primary and secondary education still shows a decline of 8 percentage points between 1982 and 1991.[21]

Even though overall expenditure on technology has increased during the 1980s, a slowdown in growth has occurred since 1987. This is caused by the strong decline in business R&D output ratios since the late 1980s, and has become a source of major concern in the Netherlands.[22] Not only was the decline in R&D intensity larger than in other countries European countries, the level of R&D intensity also was lower so that the gap between the Netherlands and other countries increased considerably since 1987 (Diagram 6). In fact most of the decline in the R&D intensity originated from the business sector, and in particular from five large firms in the Dutch economy (AKZO, DSM, Philips, Shell and Unilever). These firms accounted for over 70 per cent of business R&D in 1987 but for only 55 per cent in 1992.[23]

The gap in R&D intensity between the Netherlands and other OECD countries was especially large in typical high-tech industries, such as electronics, aircrafts, computers and pharmaceuticals. On the other hand the rise in R&D intensity in the Netherlands was somewhat above average in petroleum refining, chemicals and food processing. As mentioned above, the latter two industries accounted for a relatively large share of employment in Dutch manufacturing. Indeed the "structural component (as opposed to the intrinsic component) of the difference in R&D intensity between the Netherlands and an average for eight other OECD countries is negative, in particular in comparison to Germany, Japan, Sweden and the UK.[24]

In contrast to the decline in R&D intensity, import of technology has become increasingly important over the past 15 years. In 1975 licenses accounted for only 2.3 per cent of total investment in human capital, but this share increased steadily up to over 10 per cent of human capital investment in 1991 (Table 15).[25] A test on the elasticity of total factor productivity with respect to the investment in domestic R&D versus the investment in foreign R&D suggests for the Netherlands an elasticity of only 0.07 for domestic R&D versus 0.15 for foreign R&D. The effect on Dutch productivity growth was the greatest for R&D expenditures in the USA (0.077) followed by Germany (0.04). In conclusion, investment in R&D in foreign countries had a greater effect on productivity growth in the Netherlands than investment in the country itself.[26]

(Semi-)public research institutes also account for a relatively share of investment in technology in the Netherlands. In particular medium-sized firms rely to an important extent on the supply of knowledge by public research institutes, because of the limited scale advantages for investment in own R&D. In 1989 R&D intensity of public research institutes in the Netherlands was 0.42 compared to an average of 0.37 for the eight OECD countries mentioned above.[27] A relatively large part of the research in Dutch public research institutes is of a fundamental nature rather than of an applied nature or directed to development activities. For example, in 1989 fundamental research accounted for 31.7 per cent of R&D expenditures in Dutch public research institutes compared to an average of 22 per cent for the eight OECD countries mentioned above except the UK.

The population of working age (25-64 years old) in the Netherlands has relatively high levels of qualifications compared to the OECD average and EU (Table 16). However, in comparison to the reference group of 11 Northwest European countries, the share of persons with upper secondary qualifications is relatively small. This is related to the fact that the latter category includes qualifications derived from apprenticeship programmes. Historically these have been of less importance in the Netherlands compared to neighbour countries in particular Germany.[28] The Dutch educational system may be characterised as "specialised" and concentrated on full-time education. Until recently pupils choose at a relatively early stage between different types of general and vocational schooling, though with the recent introduction of the "basic education" (up to 16 years old) this selection moment is postponed until the

age of 15-16. From age 16 onwards most pupils in the Dutch education system stay on in full-time education of which more than half in full-time vocational education. Unlike in the dual education system of Germany, apprentices are relatively unimportant in the Netherlands. In 1991, apprentices in the Netherlands accounted for 21 per cent of pupils in upper secondary education compared to 57 per cent in Germany.[29]

Given the importance of vocational education for the structural performance of a economy, attainments levels of the population of working age may also be compared in terms of vocational qualifications (Table 10). Compared to France and the UK the share of the economically active population in the Netherlands without vocational certificates is low. However, the share of lower intermediate vocational degree (which in this case includes the apprentices) is only 38 per cent compared to 56 per cent in Germany. The Dutch labour force has the highest share of technicians with an upper intermediate vocational certificate.[30] Studies of productivity and competitiveness generally show that the degree of vocational training of the Dutch labour force economy is fairly good. For example, the latest World Competitiveness Report suggests average ratings for the judgments of Dutch employers on the effectiveness of on-the-job training and the availability of technicians and engineers.[31] Case studies at plant level on the link between productivity and education suggest that the Dutch productivity advantage over the United Kingdom can be traced to higher levels of vocational education, mainly because of the greater reliability and higher flexibility of the workforce. This is reflected in less machine breakdowns and a more efficient use of the pool of workers.[32]

3. Correcting Structural Imbalances

Both wage moderation and economic policies aimed at the correction of structural imbalances have probably contributed to the recent improvement in GDP per capita and employment growth in the Netherlands as described in the previous sections. The social partners generally accepted the basic principle that moderate wages are a essential condition for increasing labour participation and improving international

competitiveness. However, wage moderation cannot be a substitute for emor fundamental measures to correct structural imbalances which may undermine th working of labour, product and capital markets in the long term. Therefore, attention has also been focused on structural reforms to improve economic performance. A important aim of recent policies is to improve the flexibility and competitiveness o the economy. Policy has focused on the reduction of the tax burden, competitio policy, deregulation and improvement of the infrastructure. These issues will b reviewed below. Next the section deals with two issues that are currently under debate: capital market imperfections and the alleged lack of economic dynamics in the Netherlands.

Structural Reforms

One important policy aim since the beginning of the 1980s has been to reduce the tax burden in order to enhance economic growth and to support employment growth. So far, this policy has resulted in a considerable reduction in the share of government outlays in national income. The size of the public sector, which ultimately determines the tax burden, has decreased from 67 per cent of GDP in 1983 to 55 per cent i 1995. It is remarkable that the shrinking of the public sector took place under coalition governments of various orientations, underlining the broad consensus o this issue in Dutch politics.

With respect to competition policy there has also been progress. In the past, cartels and other collusive agreements were not banned in principle. Action was taken only against restrictive agreements which were considered contrary to the public interest or which were applied in a way contrary to that interest. Moreover, licensing rule were widespread, restrictive and complex; and administred prices played a major role in the public sector.[33] Over the past couple of years three decrees have been introduced prohibiting horizontal price agreements, market sharing agreements, an collusive tendering, respectively. Furthermore, a concept for a new competition la has been proposed. This new competition law will be based on the principles of th European rules of competition: restrictive agreements and practices and abuses of dominant position by one or more parties will be prohibited. The new competition act also provides for a system for control of market concentrations. If parliament accepts the plans of the government - as seems likely - the enforcement of the new Dutc

competionact will be executed by a new competion authority. Planned mergers with a combinedturnover of more than Gld 250 million, with at least two of the mergin partieshaving aminimum turnover of Gld 30 million in the Netherlands, will have to be notified to the competition authority. Within one month the authority sdecide whether a license is necessary to effectuate the merger. If a merger creates o strengthensa dominant position a license is necessary, dcison whether the license will be granted has to be taken within another three months. In case a licenst is no granted,the mergingparties can request the minister of Economic Affairs to overrule the decision of the authority. Only in case the merger is considered to be in the public interest the minister can approve of it.

Another possible hindrance to flexibility is government regulation. Accordding t recent research the Netherlands comes last in a rating of European Union membe countries with respect to flexibility of product and labour markets. This ranking i based on nine different regulation indicators, including regulation for opening hour for shops, mergers, working hours, temporary labour contracts and dismissa procedures.[34] Other estimates suggest that if both the labour and goods marketts ha been more flexible over the period 1984-1990 output of firms and employment would have been substantially higher.[35] These calculations alsosuggest that a more flexible labour market on itself hardly affects output. Only in combination with mor flexibility in the goods markets does flexibilisation of the labour market hav substantial effects on output growth.

In the past, various governments had deregulation on their policy aim, but progress in this field has been modest. The current government also started a deregulatio project. One of its first results has been the proposal to liberalise shop opening hours. Regulation on opening hours of shops in the Netherlands is quite restrictive in comparison with other European countries.[36] The newly proposed legislatio involves liberalisation of opening hours. In the government proposal opening hour were free. Between midnight and 6.00 AM and on Sundays shops should in principle remain closed, but municipalities will get the possibility to provide exemptions fo no more than twelve Sundays a year. It seems likely that liberalisation of opening hours will lead to a higher level of average opening hours. This is an important factor, since most estimated effects of a more liberal regime crucially depend on this assumption.According to a recent study by the Central Planning Bureau (CPB) th

government proposal would increase average opening hours by five hours. The CPB concluded that total turnover will increase by 0.4 percentage point, due to increase of prices and volume both by 0.2 percentage point. Total employment will increase by about 10,000. The process towards scale increase will be furthered.

An important aim of deregulation policy in the Netherlands is to reduce the detrimental effects of regulation for business. These effects primarily involve compliance costs. The main areas are health and safety, environment and taxes and social security. Recent estimates of the total operating costs of taxation and public transfers have been estimated at about 3 per cent of GDP in 1990; net compliance costs of the tax-benefit system to business amounted to approximately 1 per cent of GDP.[37] Legislation can also create specific barriers for new businesses and thus restrict competition. For instance, the Dutch Establishment Act prohibits the entry of a new business without a proper license in more than 80 sectors. Licenses are issued only if the entrepreneur holds a qualification which is recognized by the government.[38] This legislation has recently been modernised. The number of licensing requirements has been reduced from about 90 to only eight; the new regime has taken effect on 1 January 1996.

Another important goal of current policies is to improve the infrastructure of the economy. In recent years plans have been drawn up for some large infrastructure projects in the Netherlands, including the expansion of Amsterdam airport, the connection of Amsterdam and Rotterdam to the European high speed railway network and a direct freight raillink between Rotterdam and Germany (the "Betuwelijn"). Whereas the quality of airports and seaports in the Netherlands is generally regarded as high, there are some deficiences with respect to the quality of roads and railways.[39] These are related to congestion, especially in the so-called Randstad, and connections to the hinterland. There is broad consensus about the importance to maintain an adequate level of public infrastructure in particular given the comparative advantage of the Netherlands in the transport sector.

The government also aims at the improvement of the technological infrastructure. This is indeed very important since Dutch manufacturing is characterised by a strong representation in industries with many skilled workers, as pointed out in the previous section. One may therefore question whether budget cuts in education beyond the aim to achieve efficiency gains may not be harmful for the economic performance of the

Netherlands in the longer term. A recent white paper of the Dutch government, Knowledge on the move ("Kennis in beweging"), observes that the education system of the Netherlands does not sufficiently react to changing labour market conditions. Furthermore, the match between public and private R&D needs to be improved by stimulating investment in R&D and modernising the system of vocational education. The major initiatives which are taken to achieve these policy objectives are: fiscal incentives to the private sector to increase business R&D and to create apprenticeship positions, a strengthening of cooperation between the private and public research sector through the creation of so-called cluster projects, centres of excellence, regional training centres for basic education, general adult education, apprenticeship and secondary vocational education, and through supporting the self-sufficiency of public research institutes.

Two of these policy initiatives, i.e. a stronger orientation of the research of public research institutes to the private sector and the support of apprenticeship systems, deserve a specific comment. Clearly an efficient exchange between users and suppliers of knowledge is important and policies to set up clusters between firms and research institutes will be helpful in this regard. However, there may be limits to the extent that small and medium sized enterprises, which benefit in particular from the knowledge supplied by public research institutes, can give the right signal concerning the demand for knowledge. Many of the new techniques which are applied in these firms are likely to be supply- rather than demand driven. One may therefore question whether a strengthening of the task of public research institutes to act as transferer to small- and medium sized companies of technologies mostly developed in large firms or abroad may not be a better policy aim than further withdrawal of governmental support of these institutes. Indeed, other countries are increasing rather than decreasing the governmental support of public research institutes.[40]

Strengthening the apprenticeship system has some advantages in comparison to full-time vocational education. An apprenticeship system increases opportunities for people under eighteen to follow part time education. It also widens the ability range in creating training opportunities for low as well as high achievers and it provides higher labour market value to skilled workers.[41] An important reason for the small share of apprentices in the Dutch vocational education system is the limited ability range which the system presently focuses on and its relatively low status compared to

fulltimeeducation. Furthermore, the costs of apprentices are presently too high. Most apprenticeshave a labour market contract and earn at least the legal minimum wag on a part-time basis. During the1980s several policy measures were already taken to increase the number of apprentices, which rose from about 60,000 in 1985 to abou 150,000 now. The tax incentive (introduced in January 1996) which is meant t lower the overall wage cost of apprentices could be an important stimulus, but th rise of 18,000 apprenticeships which is foreseen over the next 3 years from a present numberof about 150,000 is modest compared to the 900,000 pupils receiving junior, secondary and higher vocational education in the Netherlands. The measure therefore need to be complemented by strengthening the performance of fulltim vocationalschools. In recent years many of those schools have been successful i improving their cooperation with the private sector.

Capital Market Imperfections

In raising external funds for investment purposes basically three options are available for firms: stock issue, bond issue and bank loans. Diagram 7 shows that the amount of money raised through the primary capital market is quite limited.[42] It is not unique to the Netherlands that issues of new equity and bonds are not very important in financing investment. Also in other OECD countries entry on the primary capital market is not an available option for many firms. Only large firms are in a position to raise funds in this way. A recent survey revealed that firms in the Netherland have a very strong preference for internal finance.[43] Still, it may be argued that in the Netherlands the supply of risk-bearing capital is lacking due to three factors:

- various defensive devices to preclude hostile takeovers which make investmen in stock unattractive;
- the Dutch system of contractual savings; and
- the fiscal system in the Netherlands.

These institutional features may cause the cost of capital to be high and will b discussed in more detail.[44]

Defensive devices

In the Netherlands hostile takeovers are uncommon, which is due to the existence of various defensive devices.[45] The Dutch model of corporate finance, in which significant powers are attributed to the supervisory board whose members are appointed by co-optation, acts as a defensive device in the first place. In addition Dutch companies utilize a range of other anti-takeover devices.[46] Currently a discussion is taking place as to how these defensive devices should be reduced. The authorities have indicated they wish to reform the current system and to give shareholders more influence, thereby making investments in shares more attractive also for institutional investors. The foregoing analysis does not imply that the market for corporate control in other European countries, where defensive devices are generally less common, is necessarily more flexible than in the Netherlands. In many other European countries other barriers for hostile takeovers exist.[47]

Contractual savings

The Netherlands has an elaborate pension system, with total assets invested by pension funds amounting to 73 per cent of GDP in 1992. The pension fund for civil servants is worth nearly half this sum. Adding the assets of life insurance companies yields total assets of institutional investors of 113 per cent of GDP in the Netherlands. Until recently pension funds, which are by far the most important suppliers of savings, were reluctant to invest heavily in risk bearing assets. Share holdings by pension funds merely comprise 14 per cent of total assets (Table 18). As a consequence, distribution of shares in the Netherlands is very divergent from that in for example the UK, where pension funds are also very important suppliers of savings. Besides a risk-averse investment policy by the funds, this is also due to legal restriction for the pension fund for civil servants that more than 20 per cent of funds may be invested in shares. This restriction will be cancelled with the forthcoming privatisation of this pension fund. The pension fund for civil servants has already announced that during the next five years it will increase investments in shares with 13 billion Gld to a total of 28 billion Gld.

Fiscal system

A third factor which is often pointed at as one of the factors that may influence the availability and price of risk-bearing capital is the fiscal system of the Netherlands. As in many other OECD countries effective tax rates on different forms of saving vary widely in the Netherlands. This is due to various factors, including a favourable tax treatment of contractual savings and different treatment of distributed company profits compared with retained earnings. As concerning contractual savings, pension contributions are deductible, whereas pension payments are taxed under the personal income taxation scheme. As the marginal rate which applies for the deductions is generally higher than the rate at which pensions are taxed, the public sector is in effect subsidizing pension saving. The rate which applies for pension benefits is lower than that for deductions for two reasons. First, the income level of retired people is generally below their income level at working age. Second, pensioners do not have to pay premiums for the public pension system (AOW). For non-contractual savings the tax rules are quite different. Interest received is taxed under the personal income taxation scheme, with an exemption of Gld 1,000. Due to high top income tax brackets the differences between the tax treatment of both types of savings are

relatively large. This may affect the availability of risk-bearing capital as pensio funds are quite risk-averse in their investment policies (see above).

Concerning the tax treatment of distributed company profits, the Netherland applies the so-called classical system with respect to taxation of company profits This implies that distributed profits are taxed twice: profits are first taxed at the firm level while distributed profits are subsequently taxed under the personal income taxationscheme. With a tax rate of 35 per cent, the Dutch level of profit tax rates is not out of line with that in other countries.[48] One attractive feature of Dutch profi taxation is the participation exemption. If a company owes at least 5 per cent of th capital of another company, all proceeds derived from this participation are excluded from the taxable profit of the holding company, once the profits of the company i which it participates have been taxed under a foreign corporation income tax irrespective of the rate of this foreign tax profit. In comparison with other OECD countries, Dutch company profit tax legislation has little possibilities for accelerated depreciation. Still, rules for depreciation of assets and the valuation of inventories are fairly generous in the Netherlands. In conclusion, profit taxation is not unfavourable to investment. However, due to the relatively high rates of income taxation, th overall tax rate on distributed profits is quite high in comparison with the other countries. This is due to the fact that, apart from an exemption of Gld 1,000 dividends are taxed under the personal income taxation scheme. In 1991 this resulted in an average tax rate on distributed profits of 67 per cent; in Belgium and Germany these rates amounted to 54 and 44 per cent, respectively.[49] The difference between the level of taxation of retained and distributed profits is therefore quite high in th Netherlands (32 per cent in 1991), which makes it attractive not to distribute profits, especially since capital gains on shares are not taxed.[50] This may have been a factor explaining the relative importance of retained earnings to finance investments in th Netherlands, although there are also other possible explanations. Whether the relatively high level of retained earnings has reduced the availability of risk-bearin capital and increased its price is, however, less clear. On the one hand, shareholders are provided with less opportunities to reinvest distributed profits in risk-bearin projects, which may reduce dynamism. On the other hand, a high level of retaine earnings is important, since most investments are financed in this way, irrespectiv of the fiscal system.

Lack of economic dynamics?

The possible existence of structural rigidities in goods and labour markets in the Netherlands has been an important point of debate in recent years, and has also influenced economic policy to a considerable extent. Indeed, the Coalition Agreement of the present government states the improvement of the "dynamics" of the Dutch economy as an explicit policy goal. An important issue here is how those dynamics should be quantified. Indicators generally refer to market structure (like degree of concentration), behaviour (like entry and exit of firms) and performance (like price cost margins, productivity and profitability). In a recent study principal component analysis on various possible indicators has been applied to 29 sectors in the Dutch economy.[51] It is shown that basically three independent components are relevant in describing dynamics: market power, capital intensity/export orientation, and a factor called "business dynamics". The first dimension (market power) is primarily determined by small-scaleness, seller concentration and deconcentration of buyers. The second dimension is primarily determined by capital intensity and export orientedness. These issue have already been dealt with in the previous chapter. The third dimension ("business dynamics") is primarily determined by entry and exit of firms; these factors in turn are highly correlated.

Market power in manufacturing

One way to analyse market power is to estimate price mark-ups. According to standard neoclassical theory, prices will equal marginal costs in case of perfect competition. Discrepancies between marginal costs and prices therefore may reflect market power. Other reasons for mark-ups include sunk costs or innovation rents. In a recent study price-cost margins (PCM) for 66 sectors of Dutch industry have been examined over the period 1975-1986, which shows that the gap between the highly concentrated high-PCM industries and the less concentrated low-PCM industries has disappeared over time. Price-cost margins in Dutch manufacturing industries appear to depend on the interplay of seller and buyer concentration, capital intensity, the degree of industry's capacity utilization, the growth of industry's sales and the level of exports.[52] It also appears that Dutch industries react to both demand and capacity utilisation The long term impact of these factors is considerably higher than their short term influence.

Table 19 shows the estimates of mark-ups in various industrial countries.-Mark ups in Dutch manufacturing are not exceptional.

Market power in banking

Concentration in Dutch banking is relatively high. In 1990 the market share of the five largest banks as percentage of total assets amounted to 84 per cent. In Germany and the United Kingdom the corresponding figures were 27 and 28 per cent respectively.[53] An important issue is whether this has reduced competition, thereby leading to excessive rates, to less credit supply and high profits in the banking sector.

In household and corporate loan markets, there is a relatively high mark-up in the Netherlands over the period 1984-1991. The same is true for the deposit market where the Netherlands even comes top of the list.[54] According to a recent interview survey of bank behaviour in the Netherlands, most banks believe to have some market power with regard to a wide range of products, irrespective of the particular type of client concerned. These products include business loans, consumer credit, mortgages, demand and time deposits, savings accounts and payments services. Most banks indicated that competition from foreign banks in domestic financial markets is not very substantial. In fact, competition from non-bank financial institutions in the Netherlands, such as insurance companies, pension funds and investment companies,

is generally felt to be more severe, especially where mortgages and government loans are concerned.[55] As for the other types of loans, banks have large market shares ranging from 41 per cent for consumer credit to about 65 per cent for business loans at the end of 1992. Concentration in the Dutch market for savings deposits has increased markedly through the years. Specifically, the joint share of the three largest players in this market rose from around 60 per cent in the 1960s to some 80 per cent in 1990. Moreover, owing to mergers, the number of independent savings banks in the Netherlands dropped from 248 in 1960 to 100 in 1975 and to 21 in 1990. Concentration tendencies have had less impact on competitiveness in the mortgage market, where the degree of oligopoly decreased. However, in 1990 the market power of mortgage lenders was still significant, suggesting that a situation of perfect competition in this market is still a long way off.[56]

Although there is substantial evidence that many financial retail markets possess oligopolistic characteristics, profits in Dutch banking do not seem to be excessive. Interest margins in Dutch banking appear to be quite modest, also during the more recent period (Table 20). With respect to efficiency the Dutch banking sector also has a relatively good position. Productivity in banking is quite high (see also Diagram 2). In 1992 gross income per bank employee in the Netherlands was below the EC average. Staff costs as percentage of the total balance sheet were also relatively low.

Business dynamics

As pointed out above, the "business dynamics" dimension is primarily determined by entry and exit of firms, which in turn are highly correlated. Table 21 shows that the number of registrations of new firms in the Netherlands is considerably higher than the median in Europe. This indicator of dynamism does not provide any information about whether these new firms were able to adapt to market circumstances (another aspect of dynamism) and survive. However, Table 21 also shows that the survival rate in the Netherlands was the highest of all European countries for which data are available. Almost one third of new enterprises in the Netherlands was started in trade and repairs, and relatively less in manufacturing and construction. As in other countries the Netherlands show a declining share of manufacturing and an increasing importance of services in terms of new start-ups.[57]

4. Conclusion: The Need for Further Improvements

As pointed out in the previous sections, Dutch economic performance in terms of GDP per capita growth has improved considerably since the late 1980s both in comparison with the recent past and compared to the OECD, the European Union and Northwest Europe. Progress has also been made with respect to the correction of structural imbalances. Although the growth rate of the number of persons employed has been impressive as well, the Dutch economy has not been able to accommodate the rapid increase in labour supply since the mid 1980s. Furthermore, productivity growth has stagnated. Although the labour force participation rate in the Netherlands is now at the OECD average, it is expected that labour supply will increase further in coming years. Given the rise in labour supply and the need to prevent a slowdown in per capita income growth taking place in the long term, it will be necessary for the Netherlands to further improve the economic performance and to use the increasing labour supply as effectively as possible. The currently high level of (broad) unemployment (i.e. all beneficiaries of social security as a percentage of the population at working age) and its uneven incidence across labour force groups only underline this imperative. Obviously not all persons in broad unemployment can be expected to be integrated in the labour process in the next years. However, even underemployment (defined as the rate of those receiving unemployment benefit plus the unemployed who wish to work but do not actively look for work because they believe no suitable job is available plus part-time workers who usually work fulltime or who would prefer to work fulltime) is relatively high compared to the OECD average.[58] A fundamental question in this respect is what the rise in labour supply will do to the average productivity performance at macro level. A recent study on the link between inactivity and labour productivity suggests that a decline in inactivity rates may lead to both a rise in GDP and lowering of average productivity because of the lower productivity performance of those persons who were inactive before.[59] Indeed the evidence presented in the previous sections suggest this is what happened in the Netherlands over the past years. The negative impact of the growth of labour supply on the productivity growth rate is strengthened by the fact that most new jobs were created in services industries where wages and productivity growth are lo

compared to those in commodity sectors of the economy. In addition, productivity levels in some services sectors - like trade - are low compared to those in other countries. Furthermore, many newly created jobs are parttime jobs. Given the already exceptionally high level of parttime work in the Netherlands, it seems likely that the productivity loss of creating more parttime jobs might be quite substantial as most of these jobs will end up at the lower end of the productivity scale. In addition there is some evidence that working time reduction schemes also create a substantial productivity loss, in particular when labour time shortening schemes are realised in terms of creating less working days per person (as has usually been the case in the Netherlands) rather than shortening the working day.[60]

The combination of rapid growth of employment (even when these are parttime jobs) and lower productivity has, of course, positive effects in the short run, like significant reduction in social security expenditure. However, when the additionally created employment leads to productivity losses, in the longer run per capita income growth may be negatively affected. The focus should therefore be on accommodating the rise in labour supply not primarily by redistributing labour but by creating additional labour time of a high productivity nature, which is most likely to be situated in industry and services sectors like transport, communication and finance.

Table 12

Gross saving and investment (%GDP), 1960-1993

	gross saving					gross investment				
	1960-73	1974-79	1980-89	1990-93	1960-93	1960-73	1974-79	1980-89	1990-93	1963-90
Netherlands	27.5	23.4	23.0	24.4	25.1	25.6	21.5	20.1	20.3	22.7
EU15	25.0	22.6	20.5	19.5	22.6	23.7	22.7	20.6	20.3	22.2
OECD Europe	24.9	22.6	20.8	19.9	22.7	23.7	22.7	20.8	20.6	22.3
OECD	23.7	22.7	21.2	19.9	22.3	22.2	22.6	21.3	20.4	21.8

Source: OECD Historical Statistics

Table 13

Rates of return on capital in the business sector, 1970-1994

	Netherlands	European countries	OECD	Japan	USA
1970-78	13.7	13.1	15.0	18.3	15.8
1979-86	15.4	11.8	13.4	14.0	14.5
1987-94	17.7	13.6	15.2	14.4	17.0

Source: OECD, Economic Outlook, June 1995

Tabel 14

Foreign direct investment in the Netherlands and Dutch investment, 1973-94

	1973-79	1980-86	1987-94
Foreign direct investment:			
- growth rate (%)	14	15	17
- % GDP	0.52	0.83	2.24
of which from:			
- European Union	55%	48%	63%
Dutch direct investment abroad			
- growth rate	19	4	27
- % GDP	2.11	2.19	4.21
of which to:			
- European Union	59%	58%	58%

Source: De Nederlandsche Bank

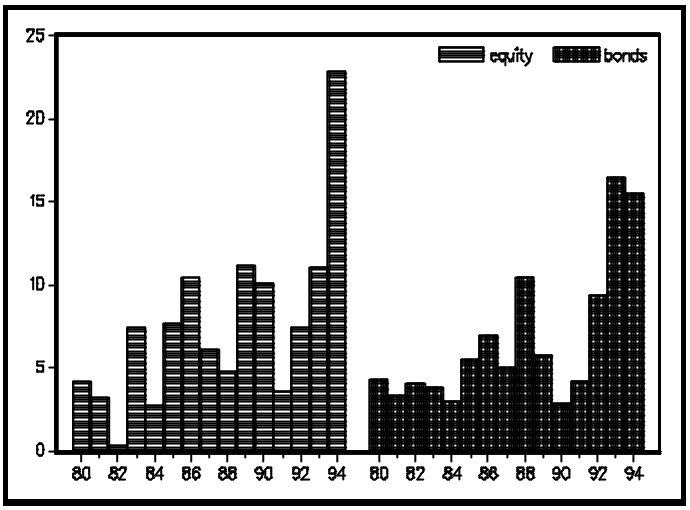
Diagram 4
Private sector investment, 1950-1994 (% value added)

Note: The investment series exclude government investment. The series have been constructed using the definition for investment in the most recent period and linking it to earlier series in 1985 and in 1969.
Source: Central Planning Bureau.

Diagram 5
Development of Public Capital Spending as a percentage of GDP

Notes: The data relate to consolidated general government. Greece is not displayed in the figure, because data is only available until 1989.
* Average over 1990-1991.
Source: OECD, National Accounts

Diagram 7
Private sector issues of equity and bonds at the Amsterdam Stock Exchange
(as percentage of private investment), 1980-1994



Source: Amsterdam Stock Exchange, Annual exports

Table 18
Ownership of shares in Germany, the Netherlands and the UK

	Germany	Netherlands	UK
households	19.7	23.0	20.0
non-financial enterprises	39.1	11.1	8.0
banks	8.1	0.8	--
investment funds	3.5	1.5	8.0
insurance companies and pension funds	2.7	14.4	52.0
government	7.0	0.8	3.0
foreign	20.0	48.3	9.0

Source: G.M.M. Gelauff,Corporate governance in Germany and the Netherlands Central Planning Bureau, The Hague, 1995.

Table 19
Mark-ups for manufacturing, averages adjusted for material inputs and indirect taxes, 1970-92 (employment weighted average)

	1970-92	1970-80	1980-92
United States	1.16	1.24	1.16
Japan	1.20	1.47	1.18
Germany	1.16	1.13	1.19
France	1.17	1.23	1.16
United Kingdom	1.18	1.23	1.20
Canada	1.23	1.27	1.22
Australia	1.20	1.21	1.22
Belgium	1.18	1.30	1.17
Denmark	1.16	1.20	1.15
Finland	1.30	1.28	1.37
Italy	1.14	--	1.23
Netherlands	1.22	1.25	1.19
Norway	1.28	1.53	1.32
Sweden	1.21	1.40	1.18

Source: J.O. Martins, S. Scarpetta and D. Pilat, "Mark-ups of Prices over Marginal Costs for 14 OECD Economies", OECD Economics Department Working Paper, forthcoming.

Table 20
Dutch banking in perspective, 1992

	Netherlands	EU	US	Japan	Germany
value added (% GDP)	5.5	5.2	3.6	2.0	3.8
banking employment (% of total employment)	2.25	1.84	na	0.61	2.30
number of employees per branch	15.9	14.8	na	27.9	17.2
ibid (1984=100)	95.9	107.5	na	74.5	105.4
gross income per employee (1000 ECUs)	114.1	117.9	na	139.8	86.6
ibid (1984=100)	164.9	121.1	na	136.0	130.2
staff costs (% balance sheet total)	1.01	1.21	1.58	0.48	1.11
relative productivity (productivity banking/ productivity economy)	2.45	2.84	na	3.35	1.68
interest margin 1984-1989	2.26	2.20	3.42	1.20	2.28
interest margin 1990-1993	1.81	2.13	3.69	1.13	2.05

Source: K. Lannoo, D. Schoenmaker and S. Van Tilborg (1993), The Single Market in Banking: From 1992 to EMU, CEPS Research report No. 17; OECD, Banking Profitability

Table 21
Index of registrations

1988	1989	1990	1991	1992	change	survival rate after:	
						1 year	3 years

Netherlands	100	109	112	121	135	+35	90	74
Europe-16 (median value)	100	103	99	99.5	99	-1	87	68

Source: European Network for SME research, 3rd Annual report

Appendix A - Growth Equations

In recent years a range of empirical studies have been carried out with the aim to establish the explanatory role of a wide range of variables in relation to economic growth with the help of regression analysis. The equations in these studies generally included a catch-up variable (proxied by the per capita income level at the beginning of the period), a variable for investment in physical capital and a variable for education. In addition variables for the openness of the economy, the socio-political system and fiscal and monetary policies are often included as well.[61]

Recently the OECD's Economic Survey, New Zealand 1992-1993 estimated some growth equations for OECD countries for the period 1960-1985 following the specifications from Barro (1991) (see Table A.1, equation 1). In Diagram A.1A, which shows the deviation of the actual growth of the Solow residual from the predicted growth rate, suggests that the Netherlands is the country which performs worst in this respect. The conclusion which was derived for New Zealand, i.e. that a "... substantial adverse impact of structural rigidities associated with the protected and non-competitive nature of the economy" (OECD, op. cit, pp. 134-136), would therefore stand out even more clearly for the Netherlands.

However, regression analysis of this nature appears to be very sensitive to the structural variables included and their specification. Equation 2 in Table A.1 shows an alternative specification of the growth equation, where the variable for government consumption is dropped[62], and another crucial variable, namely the investment-output ratio, is included. Diagram A.1B shows that the Netherlands does not anymore exhibit exceptionally high negative residuals, although it is still slightly underperforming compared to the estimated residual.[63] The results from equation 2 point towards a substantial role for investment explaining growth of real GDP. However, surprisingly the human capital variable appears hardly significant in the new regression.

Table A.1

Growth Accounting Equations, Barro-type

Dependent variable: growth of real GDP per capita in OECD countries, 1960-85

Equation	Constant	GDP60	HSGVXD	FERTNET	SEC60	INV	R^2 (adj)
1	0.069	-0.0055	-0.043	-0.079	0.0-123		0.76
	(10.36)	(-8.41)	(-1.86)	(-3.96)	(2.16)		
2	0.030	-0.0044			0.0-113	0.052	0.58
	(3.98)	(-5.30)			(1.51)	(1.95)	

Notes: equation (1) is identical to estimation from OECD (1993). Equation (2) is our own version.

Definition of the variables:

GDP60 1960 value of real per capita GDP;

HSGVXD Average of real government consumption (excl. defense and education) to real GDP;

FERTNET FERT * (1 - MORT04), where FERT is total fertility rate (average 1965-85) and MORT04 is mortality rate for age 0 - 4 (average 1965-85);

SEC60 1960 secondary school enrollment rate;

INV investment to GDP (average 1965-85).

Source: OECD Secretariat estimates

Appendix B - Growth Accounting

Growth accounting studies are another vehicle to shed light on the major underlying economic performance from a structural perspective. The most outstanding work on growth accounting from a viewpoint of international comparability is that of Maddison (for example, Maddison, 1987[74]). Table B.1 reproduces growth accounting results for the Netherlands and its deviation from the performance of France, Germany and the UK for two periods (1950-73 and 1973-92). A positive sign for the deviation implies a higher value for this variable in the Netherlands whereas a negative sign implies a lower value. The first three variables in Table B.1 concern the growth rates of real GDP, GDP per augmented unit of labour input, and GDP per combined unit of augmented labour and capital. The following rows show the contribution of augmented labour and capital input to real GDP growth, weighted at their factor income shares in GDP. An important feature of growth accounts is that these enable a further decomposition of the Solow residual into factors such as the effects of foreign trade, resource allocation and economies of scale on growth.

It appears that for both periods more than three-quarters of output growth in the Netherlands could be accounted for by the factors which Maddison calculated. The comparison with the other three countries suggests that somewhat slower growth of the Netherlands compared to France and Germany during the period 1950 to 1973 could be accounted for in particular by the slower growth in the physical capital stock. However, the much greater positive effect of foreign trade on growth for the Netherlands compared to the other three larger countries more than offsets the dampening effect of slower capital input growth, even after accounting for the negative effect of structural change on Dutch economic growth.

During the period 1973 to 1992 the Dutch economy performed much better than the other countries on the creation of employment although this effect was more than offset by the decline in working hours per person employed. The impact of a slower growth in capital stock compared to France was somewhat stronger during this period than during the period 1950-73, but it was weaker compared to the other two countries. Most important was that the positive foreign trade effect was of much less importance for the Netherlands during this period. Apart from the strongly diverging

effects of the number of hours per employee, the foreign trade effect and the structural effect, it is also striking from the Maddison data that Dutch performance in education was above average.

Notes and References

1. The original growth equation is derived from OECD, OECD Economic Survey New Zealand 1992-1993, Paris, Appendix A. It regressed the growth in real government consumption, population growth and secondary school enrollment to the growth of real GDP per capita. See Appendix A for a more technical explanation of the estimation of economic growth in the Netherlands, including the alternative specification which includes the investment-output ratio.
2. Ministry of Economic Affairs, Toets op het concurrentievermogen, Achtergrondrapport (Test on Competitiveness), Den Haag, 1995.
3. Here the change in labour force participation is not adjusted for changes in the share of the population younger than 15 years and from 65 years onwards.
4. The better performance of the OECD as a whole is mainly due to the greater degree of job creation (without a substantial productivity loss) in the non-European OECD countries. See OECD (1994), The OECD Jobs Study, Evidence and Explanations, Part I: Labour Market Trends and Underlying Forces of Change, Paris.
5. The capital stock estimates are based on the perpetual inventory method, which cumulates gross investment on an annual basis and scraps past investments after an assumed length of time representing average asset lives. The estimates are derived from A. Maddison (1995), "Standardised Estimates of Capital Stock: A Six Country Comparison", in: Explaining the Economic Performance of Nations, Essays in Time and Space, Edward Elgar Publishers, Aldershot, and updated to 1994 with investment figures from Centraal Plan Bureau (1995), Centraal Economisch Plan 1995, Den Haag.
6. These growth accounts are obtained from A. Maddison (1996), "Macroeconomic Accounts for European Countries", in B. van Ark and N.F.R. Crafts, , eds. Quantitative Aspects of Postwar European Economic Growth, CEPR/Cambridge University Press. See Appendix A for a more technical explanation and results.
7. It should be emphasised that the productivity level for the economy as a whole in the Netherlands was relatively high in comparison to other countries (Table 2), so that Diagram 2 somewhat understates the sectoral productivity of the Netherlands in absolute terms.
8. See B. van Ark (1995), "Sectoral Growth Accounting and Structural Change in Postwar Europe", Research Memorandum GD-23, University of Groningen. The author emphasises the limitations of this counterfactual approach, called shift-share analysis. Firstly, the focus of any structural change study should preferably be on the effect of employment shifts on marginal instead of on average productivity. Secondly, structural transformation does not only refer to sectoral employment shifts, but also to changes in demand, trade, and resource use patterns. See also OECD (1994), op. cit. (table 1.7), which shows that the dispersion of employment changes across sectors in the Netherlands has been relatively small compared to the OECD average during the 1970s and 1980s.
9. F. Suijker en P. Eering (1994), "Het belang van de industrie voor de werkgelegenheid", ESB, 6 April, pp. 325-326.
10. L. Broersma and P.A. Gautier (1995), "Vernietiging en creatie van banen in de industrie", ESB, 2-8-1995, pp. 685-689.

11. See B. van Ark (1994), "Arbeidsproduktiviteit, arbeidskosten en internationale concurrentie", ESB, 23 November, pp. 1066-1068. When the Dutch manufacturing productivity levels for 1987 are weighted by the US employment structure, the productivity advantage over the US of 5.4 percentage points turned into a disadvantage of 9.2 percentage points.
12. Chemicals, excluding pharmaceuticals, are included in the medium-tech segment. See OECD (1994), op. cit, Part I, Annex 4.A.
13. There are alternative delimitations possible. Taking an export share of 20 percent as the dividing line, van Ark et al. (1993) analysed the performance of both sectors with respect to the growth rate of value added, employment and labour productivity. Over the period 1979-1992 real output growth of the exposed sector grew by 1 per cent on average and the domestic sector by 1.4 per cent. Employment growth in the domestic sector exceeded the growth of employment in the domestic sector, especially after 1985. Labour productivity has risen faster in the international sector. This may be due to lack of dynamism in the sheltered sector, but it may also be due to the fact that most services are included in this sector which in general have a lower potential for rapid productivity growth than the commodity sector. See B. van Ark, J. de Haan and R.D.J. Kouwenhoven (1993), "Het dynamische tekort van Nederland", ESB, 8 December, pp. 1131-1134.
14. From a productivity perspective, median size is probably more interesting to concentrate upon than the average size, as it gives an indication of the firm size for the "average" employee. Again median size in the Netherlands is higher than in the European Union, namely 83 persons compared to 50 persons. The difference between the Netherlands and the EU were most marked in trade and in producer services, but smaller in transport and communication and even below the European average in community and other services. This suggests that in the latter two sectors, despite the overrepresentation of large firms, most people were employed in firms which had a similar size (in transport and communication) or even smaller size (in community and other services) than the European average (Table 9.2). The result for community, social and personal services is relatively difficult to interpret because of differences in treatment of the various semi-government sectors.
15. As with Table 7 these only include firms which existed in 1980 as well as in 1991. Clearly this implies a substantial underrepresentation of firms in the smallest size groups where most new starters are located, and for which the productivity growth effect is much weaker.
16. See W.H.M. van der Hoeven and W.H.J. Verhoeven (1994), "Creatie en teloorgang van arbeidsplaatsen", OSA Werkdocument nr. 123. See also Centraal Plan Bureau (1995), op. cit.
17. See European Network for SME Research (ENSR) (1995), The European Observatory for SMEs, 3rd Annual Report, Revised Edition, August. The export intensity, i.e. exports as a percentage of total turnover, of small firms was 28 per cent compared to about 35 per cent for lower medium firms and 56 per cent for upper medium and large firms.
18. J. de Haan, J.E. Sturm and B.J. Sikken, "Goverment Capital Formation: Explaining the Decline", fortcoming in Weltwirtschaftliches Archiv, 1996.
19. See D.A. Aschauer, "Is Public Expenditure Productive?", Journal of Monetary Economics, vol. 23, 1989, pp. 177-200, stating the argument on the positive relationship between public expenditure and growth. For a criticism, see Rd For and P. Poret (1991), "Infrastructure and Private Sector Productivity", OECD

Economic Studies, no. 17, 1991, pp. 63-89; and J.E. Sturm and J. de Haan, "I Public Expenditure Really Productive? New Evidence for the US and th Netherlands", Economic Modelling, 12, 1995, pp. 60-72.

20. Company training includes course training, training on the job as well a conferences, workshops, etc.. In 1993 45 per cent of firms in the Netherlands ha company training schemes accounting for 2.3 per cent of the overall labour cost Company training is popular in the financial sector and in transport and communication, but less so in industry, construction and trade. See W.J. Derickse (1995), "Bedrijfsopleiding in Nederland", ESB, 18 October, pp. 942-943.
21. The education expenditure (in current DFL) per pupil in primary and secondar education increased from 12,805 DFL in 1975 to 13,397 DFL in 1982 and ha declined to 11,037 DFL in 1991.
22. See, for example, the competitiveness study of the Ministry of Economic Affair (1995), op. cit.
23. See MERIT (1994), STEMMING 1. Een beoordeling van de Nederlandse technologische positie op basis van kwantitatieve indicatoren, MERIT (1995), STEMMING 2. De Nederlandse technologische positie en de invloed van globalisering. There appears to be a modest substition of R&D investment of the large firms abroa which can be largely tracked down to one single firm: Unilever now carries ou about 17 per cent of its R&D in the Netherlands which was 25 per cent 15 year ago. See B. Minne (1995), "Onderzoek, ontwikkeling en andere immateriël investeringen in Nederland", Research Memorandum No. 116, Centraal Plan Bureau, The Hague.
24. See MERIT (1994, 1995), op. cit. The eight countries included are France Germany, Japan, Netherlands, Norway, Sweden, the UK and the USA.
25. Another indicator of the large role for imported technology can be derived fro the development in foreign direct investment which has strongly accelerated since 1987.
26. See B. Minne (1995), op. cit, p. 76. For comparison, the TFP elasticity with respect to R&D investment in Germany was 0.23 for domestic R&D and only 0.07 fo foreign R&D.
27. See endnote 27. Only Germany had a higher share of fundamental research i public research institutes, i.e. 41.1 per cent. See Merit (1994, 1995), op. cit.
28. For example, upper secondary qualifications in Germany accounted for 60.5 pe cent of the economically active population in 1992. See OECD, OECD Educational Statistics, 1985-1992, Table V.1.
29. See C. den Broeder, "The match between education and work. What can we lear from the German apprenticeship system?", Research Memorandum No. 118, Central Planning Bureau, The Hague. It should be noted that there has been a fall in the share of apprenticeships in German upper secondary education from 68 pe cent of all pupils in 1970 to 57 per cent in 1990, reflecting a trend toward preference for greater academic attainment. See also OECD, OECD Economic Surveys Germany, 1994 In the Netherlands the fall of apprentices in uppe secondary education was from 26 per cent in 1970 to 21 per cent in 1991.
30. This type of analysis, which requires a high level of knowledge of the organisation of the vocational education system in different countries, has been carried out over the years by the National Institute of Economic and Social Research (NIESR). For a detailed account of the different types of vocational education, see S.J. Prai

(1995), Productivity, Education and Training, An International Perspectiv Cambridge University Press, chapter 2.

31. These ratings are on the whole slightly lower than in Germany, but high than i France and the UK and comparable to Sweden.
32. See, for example, G. Mason, B. van Ark and K. Wagner (1994), "Productivity Product Quality and Workforce Skills: Food Processing in Four Europea Countries", National Institute Economic Review, January, pp. 62-83; G. Mason and B. van Ark (1994), "Vocational Training and Productivity Performance: A Anglo-Dutch Comparison", International Journal of Manpower, Vo. 15, No. 5, pp. 55-69.
33. See OECD, Economic Surveys, Netherlands, 1992/1993, pp. 57-66 and OECD, Economic Surveys, Netherlands, 1993/1994, pp. 47-50.
34. See R.H.J.M. Gradus, Nederlandse economie relatief rigide in Europa, ESB, 12 October 1994, pp. 921-924.
35. See J. van Sinderen, P.A.G. van Bergeijk, R.C.G. Haffner and P.M. Wansdor (1994), De kosten van economische verstarring op macro-niveau, ESB, 23 March 1994, pp. 1131-1134.
36. Although regulation is strict, average actual opening hours in the Netherlands ar not out of line with those in other European countries. However, the dispersion of opening hours in the Netherlands is relatively low. About half of the shops hav opening hours between 51 and 55 hours per week. See Central Planning Bureau, Economische effecten van liberalisering van winkeltijden in Nederland, Werkdocument No. 74, The Hague, 1995.
37. See M.A. Allers, Administrative and Compliance Costs of Taxation and Publi Transfers in the Netherlands, Wolters Noordhoff, Groningen, 1994.
38. See OECD Economic Surveys, Netherlands 1992/1993, pp. 61-62.
39. See Ministry of Economc Affairs (1995), op. cit., pp. 35-40.
40. In 1989 the government contribution to these institutes was relatively lower in th Netherlands, i.e. 78 per cent of total expenditure, against an average of 88 per cent for eight OECD countries (France, Germany, Japan, the Netherlands, Norway Sweden, the UK and the USA). Only in Japan and the UK, the governmen contribution to the public research institutes was lower than in the Netherlands. See CWTS/MERIT, Het Nederlands Observatorium van Wetenschap en Technologie Wetenschaps- en Technologie-Indicatoren 1994, Leiden/Maastricht, 1994.
41. However, an extensive apprenticeship system, as it emerged in the dual educatio system in Germany, has also disadvantages. The upward career mobility of workers with full-time vocational education appears to be better than that of those wh have been apprentices. Furthermore, there can be important differences in th quality of enterprise-based training. See C. den Broeder, "The match betwee education and work. What can we learn from the German apprenticeship system?", Research Memorandum No. 116, Central Planning Bureau, The Hague, 1995.
42. In 1994 stock issued increased substantially, but this primarily reflects th privatisation of the postal and telecom services, KPN, amounting to 6.8 billion Gld.
43. See L. de Haan, K.G. Koedijk and E.J. de Vrijer, Buffer stock money and pecking order financing: results from an interview study among Dutch firms, De Economist, 142, 1994, pp. 287-305.

44. According to a recent study by Coopers-Lybrand the real cost of equity in the Netherlands is indeed rather high. However, the method which is applied in the Coopers-Lybrand report is not without drawbacks. The risk premium of equity is calculated as the difference between the average rate of return (dividend and capital gain) on shares in the past and the yield on government bonds (risk-free rate of return), which is a method that should be applied to long-run data series. However, in the report data for the period 1983-1994 are used. During 1983-88 share prices on the Amsterdam Stock Exchange rose more than in most of the countries, whereas long-term interest rates in the Netherlands were generally very low. The reason for the relatively high increase of share prices may, however, well be that Dutch shares were generally undervalued. Before any definite conclusion with respect to the real cost of equity in the Netherlands can be drawn, more research is needed.

45. This and the following paragraphs draws heavily from G.M.M. Gelauff, Corporate governance in Germany and the Netherlands, Central Planning Bureau, The Hague, 1995.

46. In fact, in 1992 only 9 per cent of all Dutch listed companies did not use some anti-takeover device, while 25 per cent of the companies implemented three or four anti-takeover devices. Preference shares, which give a right to a fixed dividden percentage before ordinary shareholders become entitled, are most widely used. In 1992 32 per cent of Dutch listed companies applied this device. Another important anti-takeover device in the Netherlands, used by 24 per cent of listed companies, is issuing priority shares, which give special rights to the holders, like proposing or rejecting members of the management and supervisory boards and approval of the issue of ordinary shares. Almost 22 per cent of listed companies make use of tradable depository receipts. The company deposits its share capital at an administrative office, which then trades depository receipts on the stock market. This administrative office, which is usually a business connection of the company, keeps voting power at the general assembly even if a raider obtains the majority of these depository receipts. Also in many companies members of the supervisory or management board are to be elected by the general meeting of share-holders from a binding nomination of at least two persons for every seat. Only a two-third majority at the general meeting can overrule this binding nomination. See A.L.R. Cantrijn, A.A. Jeunink and M.R. Kabir, Beschermingsconstructies en rol van de aandeelhouder, NIBE katern, no. 24, 1993.

47. In Germany, for instance, large concentrations of shares are in the hands of a limited number of shareholders, who generally choose the side of management and refuse to sell to a hostile bidder. For example, in 57 per cent of the 180 largest German companies the largest shareholder owns over 50 per cent of all shares. The corresponding figure for the Netherlands is 22 per cent, indicating that the concentration in the Netherlands is substantially less.

48. There exists a tax rate of 40 per cent for the first Gld 100,000 of taxable profits. However, government has proposed the gradual abolition of this rate, so that all taxable profits will be taxed at the same rate of 35 per cent as of 1998.

49. An exception are gains from a substantial interest in a company. A substantial interest exists if a tax payer owns (or owned during the last five years) either directly, or indirectly, alone or with certain relatives at least one third of the shares of a company and, in addition, together with his spouse owns over 7 per cent of the paid-up share capital. Gains from a substantial interest are taxed at a flat rate of 20

per cent.

50. The capital tax, which is levied when a firm attracts new share capital definitel leads to higher costs of capital. The rate of this tax is, however, only 1%.
51. See G. Dijksterhuis, H-J. Heeres and A. Kleijweg, "Indicatoren voor de dynamie van de Nederlandse economie: een sectorale analyse", EIM Research report 9408 1994.
52. See Y.M. Prince and A.R. Thurik, Price cost margins in Dutch manufacturing, De Economist, 140, 1992, pp. 309-335.
53. J. Gual and D. Neven, Deregulation of the European banking industry (1980-1991), CEPR discussion paper, mo. 703, 1992. A high concentration rate as such is not necessarily a reason for concern. Economies of scale may explain a hig concentration rate and an important motivation for policy makers not to forbi mergers leading to more concentration. Furthermore, at the national level a secto may be highly concentrated, but business may face strong internationa competition. Due to the internal market concentration on a European level may be more relevant than concentration at the national level.
54. See Gual and Neven (1992), op. cit.
55. Although banks have succeeded in steadily increasing their share of the market for home mortgages during the past two decades, from 51 per cent in 1970 to 64 pe cent in 1992, they unanimously report that competition among banks and non banks in this market is fierce. Apparently, the relation between competition an market structure is less transparent than is sometimes suggested, although mos banks in the survey maintain to have some market power in mortgages. Finally, competition for time deposits and savings accounts is found to be intensified by the penetration of "insurance banks" and investment companies into the market for household savings. See J. Swank, An Interview Survey of Bank Behaviour in th Netherlands, Banca Nazionale del Lavoro Quarterly Review, No. 189, 1994, pp. 199-235.
56. See J. Swank, Oligopoly in loan and deposit markets: an econometric application De Economist, 143, 1995, pp. 353-366.
57. K.I. Lind van Wijngaarden, Start-ups in the Netherlands, EIM, 1995.
58. See The OECD Jobs Study, Part I, chart 1.14. Only Australia had a higher rate fo part time workers seeking full time employment in 1991.
59. For example, a 10 per cent decline in inactivity may lead to a rise in GDP of 0.5 per cent but a decline in labour productivity of 0.4 per cent. See A.H.O. van Soest, E.S. Mot, A.H. Paape, Arbeidsproduktiviteit en inactiviteit, Ministerie van Sociale Zaken en Werkgelegenheid, VUGA, Den Haag, 1994, p. 8.
60. A reduction of the working day may in fact boost productivity when it leads to lengthening of machine hours and therefore a more efficient capacity use. This however, will only be true when the productivity gain results in more output an not only in less labour input. Unfortunately there is limited quantitative evidenc on the nature of the productivity growth due to working time reduction. In an case working time reduction schemes seem a rather inefficient method of creating additional employment. A recent test of five scenarios which differ in assumptions in relation to capacity use, productivity growth, wage bill and the link between minimum wages and social security benefits, suggests that the gain in employment from a 5 per cent reduction in working time is only between 0.7 and 0.9 per cent whereas in fact it causes a loss in total working hours of between 1.7 and 2.9 pe

cent. See A.J.G. Manders, "Arbeidsduurverkorting een lange-termijn perspectief", ESB, 8-6-1994, pp. 534-537.

61. For an overview, see R.J. Barro (1991) "Economic Growth in a Cross Section of Countries", Quarterly Journal of Economics, vol. 106, no. 2, pp. 407-443; R. Levine and D. Renelt (1992), "A Sensitivity Analysis of Cross-Country Growth Regressions", American Economic Review, vol. 82, no. 4, pp. 942-963; and N.F.R. Crafts (1995), "The golden age of economic growth in Western Europe", Economic History Review, vol. XLVIII, no. 3, pp. 429-447.
62. The data used for equation 1 suggest that the level of the variable for government consumption (HSGVXD) for the Netherlands in Barro's data set is too low. The OECD average of this variable was 0.077, whereas its value for the Netherlands amounted to 0.026. According to the OECD Historical Statistics, government final consumption (including defense and education) in the Netherlands was on average 15.3 per cent of GDP in the period 1960-73 whereas the OECD average was 16.2 per cent.
63. We have also experimented with various other specifications which yielded the same conclusion (not shown).
64. A. Maddison (1987), "Growth and Slowdown in Advanced Capitalist Countries: Techniques of Quantitative Assessment", Journal of Economic Literature, vol. 25, no. 2, June.